Update on beam technologies developed in BARC & transferred to industry for commercialization

RF Linac

The 10 MeV, 5kW RF Linac is deployed for food irradiation, medical sterilization, cross linking of polymers, semiconductor modifications, exotic coloration of gem stones and in many other research-based applications. The RF Linac technology has been transferred to a Surat-based firm for commercialization in 2021.

Senior officials of BARC and the industry partner pose for a photograph at an event for the official transfer of technology.

Electron Beam Welding

The 12kW Electron Beam Welding Machine has been deployed for Electron Beam welding of reactive, refractory and dissimilar metals in vacuum environment. It is most suitable for processing advanced materials used in aerospace and nuclear industry. Further, EB Welding is also suitable for large scale processing of materials. The technology was transferred to a Pune-based firm in 2021.

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Flame Retardant Cotton Cloth

A phosphorous functionalized graphene quantum dot based solution has been synthesized in BARC that can impart fire resistance capability to cotton cloth. Upon coating the surface of the cloth with this solution, a protective polymer layer is formed, which effectively limits the ingress of oxygen thereby making it fire resistant. The technology was transferred to a Navi Mumbai-based firm in 2021.

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